

Work Order ID 139734

December 03, 2015 1:25:03 PM

139734

Needed for Stock
Rush

Page 1

Item ID: D3793-1 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Wearplate Fwd
Start Date: 12/3/2015 Start Qty: 24.00 *24* Cust Item ID:
Required Date: 12/10/2015 Req'd Qty: 24.00 *24* Customer:
Reference:

Approvals: Process Plan: SA Date: 20151203 Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3793	Rev A

100	FLOW WATER JET	0.00							
100									
Waterjet	Memo	0.05							
FLOW CNC Waterjet	1-Cut as per Dwg D3793 Dwg Rev: <u>A</u> Prog Rev: <u>A</u> 2- Debur if necessary								

110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.00							
Quality Control									

120	QC8- Inspect parts - second check	0.00							
120									
QC	Memo	0.01							
Quality Control									

DAS
38
9-89
DEC 08 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Work Order ID 139734

139734

Page 2

December 03, 2015 1:25:03 PM

Item ID: D3793-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Wearplate Fwd
 Start Date: 12/3/2015 Start Qty: 24.00 ***24*** Cust Item ID:
 Required Date: 12/10/2015 Req'd Qty: 24.00 ***24*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	NC BRAKE	0.00			DAS				
130					30	26			DEC 08 2015
Brake NC	Memo	0.01			9-89				
Brake NC	1-Deburr if necessary 2-Form on Brake as per Dwg D3793 using Jigs 3-Form Joggle on brake using Jig as per Dwg D3793								
140	QC5- Inspect part completeness to step on W/O	0.00							
140									
QC	Memo	0.01							
Quality Control									
150	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3	0.00							
150									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: <u>2.20</u> OVEN TEMPERATURE: <u>2.50</u>								
	FINISH TIME: <u>2.50</u>								

(26) 38 9-89
 DEC 08 2015
 26 15-12-9 38 34 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 16.6%;">Skid-tube ☐</td> <td style="width: 16.6%;">Cross tube ☐</td> <td style="width: 16.6%;">Water Jet ☐</td> <td style="width: 16.6%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																																				
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																				
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																				
Large Fab ☐	Composite ☐	Supplier ☐																																																																					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																																
Description Work Order Deviation				Disposition				Completed By																																																															
								Lead hand / Supervisor Approval Verification																																																															
										QC / QA Coordinator Approval																																																													
Root Cause <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Environment ☐</td> <td style="width: 50%;">No Re-verification ☐</td> </tr> <tr> <td>Design ☐</td> <td>Operator ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td>Offset/Setup ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Supplier ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Training ☐</td> </tr> <tr> <td>Material ☐</td> <td>Use for Testing ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Poor Information ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Rushing ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Product Improvement ☐</td> </tr> <tr> <td>Substation ☐</td> <td>Process Improvement ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>Manufacturing Process ☐</td> </tr> <tr> <td>Misidentified ☐</td> <td>Past Due ☐</td> </tr> </table>		Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width: 100%; border: none;"> <tr> <td style="width: 33.3%;">Pressure/Forced ☐</td> <td style="width: 33.3%;">Temperature/Cure ☐</td> <td style="width: 33.3%;">Power Loss/Surge ☐</td> <td style="width: 33.3%;">Positioned Wrong ☐</td> </tr> <tr> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> </table>						Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Environment ☐	No Re-verification ☐																																																																						
Design ☐	Operator ☐																																																																						
Doc/Data ☐	Offset/Setup ☐																																																																						
Equip/Tooling ☐	Supplier ☐																																																																						
Handling/Pre ☐	Training ☐																																																																						
Material ☐	Use for Testing ☐																																																																						
Internal Transport ☐	Poor Information ☐																																																																						
Tribal Knowledge ☐	Rushing ☐																																																																						
LOA ☐	Product Improvement ☐																																																																						
Substation ☐	Process Improvement ☐																																																																						
Past Expiry Date ☐	Manufacturing Process ☐																																																																						
Misidentified ☐	Past Due ☐																																																																						
Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																																																																				
Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																																																																				
Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																																																																				
Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																																																																				
Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																																																																				
Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																				
Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																																																																				
Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																				
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																				
Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																				
		OTHER :																																																																					

Work Order ID 139734

139734

Page 3

December 03, 2015 1:25:03 PM

Item ID: D3793-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Wearplate Fwd
Start Date: 12/3/2015 Start Qty: 24.00 ***24*** Cust Item ID:
Required Date: 12/10/2015 Req'd Qty: 24.00 ***24*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC3- Inspect Part Finish	0.00							DAS 38 9-80
160									
QC	Memo	0.00							
Quality Control									DEC 10 2015
170	Identify as per dwg & Stock Location: <u>FP.002</u>	0.00							
170									
Packaging	Memo	0.00							
Packaging	LOCATION ; FP002								X26 d ll 12/10/10
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.04							ms DEC 11 2015
Quality Control									

ms DEC 11 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

December 03, 2015 1:25:09 PM

Page 1

Work Order ID: 139734

139734

Parent Item: D3793-1

D3793-1

Parent Item Name: Wearplate Fwd

Start Date: 12/3/2015

Required Date: 12/10/2015

Start Qty: 24.00

Required Qty: 24.00

Comments: IPP Rev:A 08-05-13 new issue DD verified by:EC
IPP Rev:B 08-05-23 revA as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S20GA		Purchased	No			100	sf	148.1730	0.5902	14.91032			

M304S20GA

304/316 .040 Sheet

DL 15/12/03

Location

Loc Qty

Loc Code

MAT020

148.173

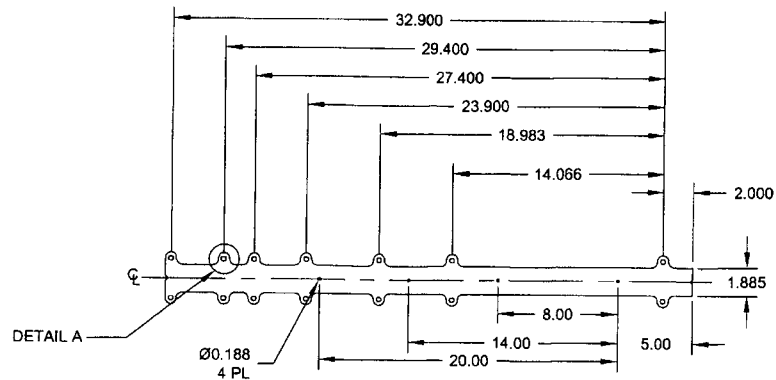
m132387

52.173

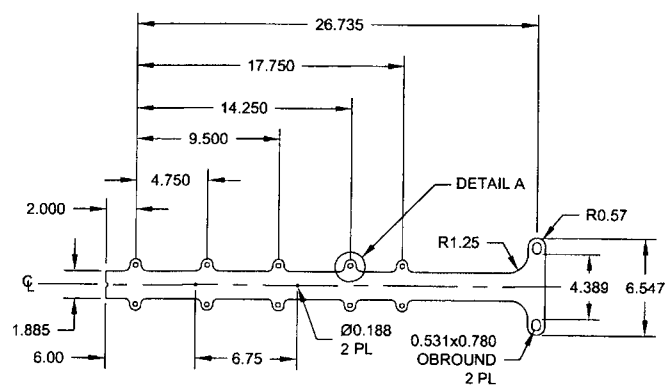
m133511

96

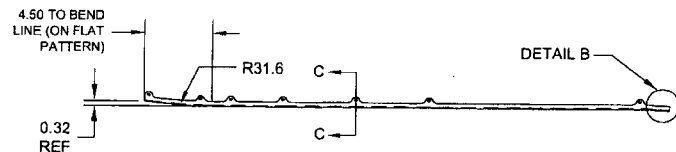
23.5



D3793-1F FLAT PATTERN



D3793-3F FLAT PATTERN



D3793-1 BEND DETAIL
(MAKE FROM D3793-1F)



D3793-3 BEND DETAIL
(MAKE FROM D3793-3F)

NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 20 GAUGE (0.038 THICK)
(REF DART SPEC M304S20GA)
- 2) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "DXXXX-X" ON INSIDE SURFACE USING FINE POINT PERMANENT INK MARKER OR LABEL AFTER FINISH
- 7) WEIGHT: D3793-1 - 0.72 LBS, D3793-3 - 0.66 LBS

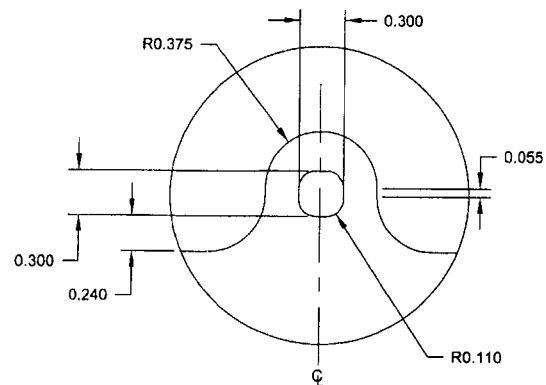
RELEASED
08.05.14

A 2-NEW ISSUE		PH	08.05.14
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	PH	D3793	SHEET 1 OF 2
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	WEARSHOE	NTS
DATE	08.05.14	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC			

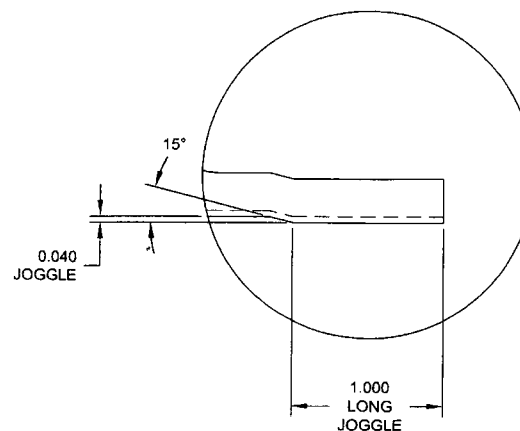
8 7 6 5 4 3 2 1

D

D



DETAIL A
SCALE 10X



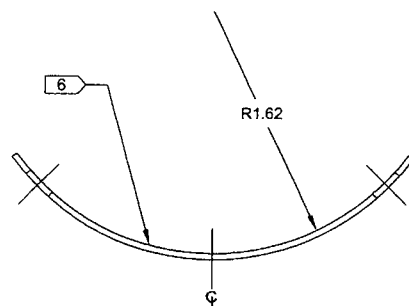
DETAIL B
SCALE 10X

C

C

B

B



SECTION C-C
SCALE 10X

RELEASED
08-05-23/11/14

A

A

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED	PH	DRAWING NO.	REV. A
MFG. APPR.	PH	D3793	SHEET 2 OF 2
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	WEARSHOE	NTS
DATE	08.05.14	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	

8 7 6 5 4 3 2 1

